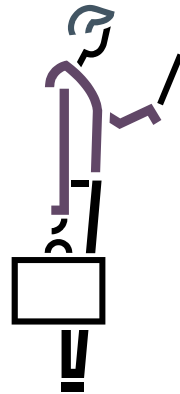


Accelerating possibilities
Hewlett Packard
Enterprise

Core beliefs



The world will be
Hybrid



The **Intelligent Edge** is
going to unleash an
industrial IoT revolution

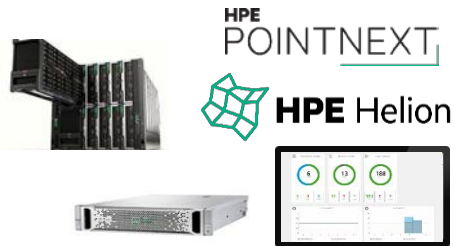


Services are going to
be even more critical

Realizing our vision

Organic Investments

- HPE Synergy
- Hyper Converged 380 solution
- Edgeline
- OneView
- Helion Cloud Platform
- HPE Pointnext



Strategic Partnerships

- Microsoft Azure
- Docker
- Mesosphere
- Chef
- GE Digital
- National Instruments
- Arista
- Scality
- HP Inc.
- DXC Technology
- Micro Focus



Targeted Acquisitions

- Aruba Networks
- ConteXtream
- Rasa Networks
- SGI
- SimpliVity
- Cloud Cruiser
- Niara
- Nimble Storage

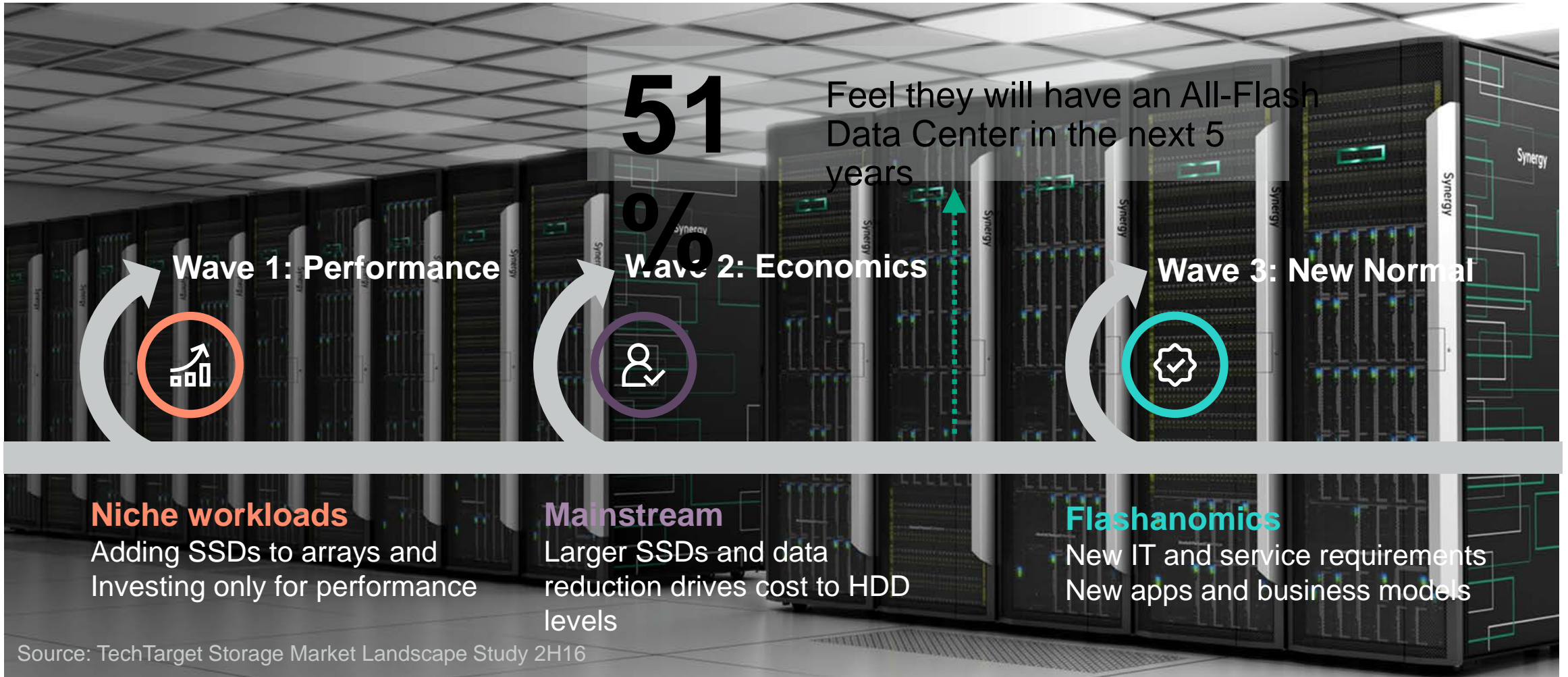


Portfolio Optimization

- H3C deal
- TippingPoint sale
- Mphasis stake sale
- Spin-merger of Enterprise Services business with CSC
- Spin-merger of HPE's Software assets with Micro Focus*

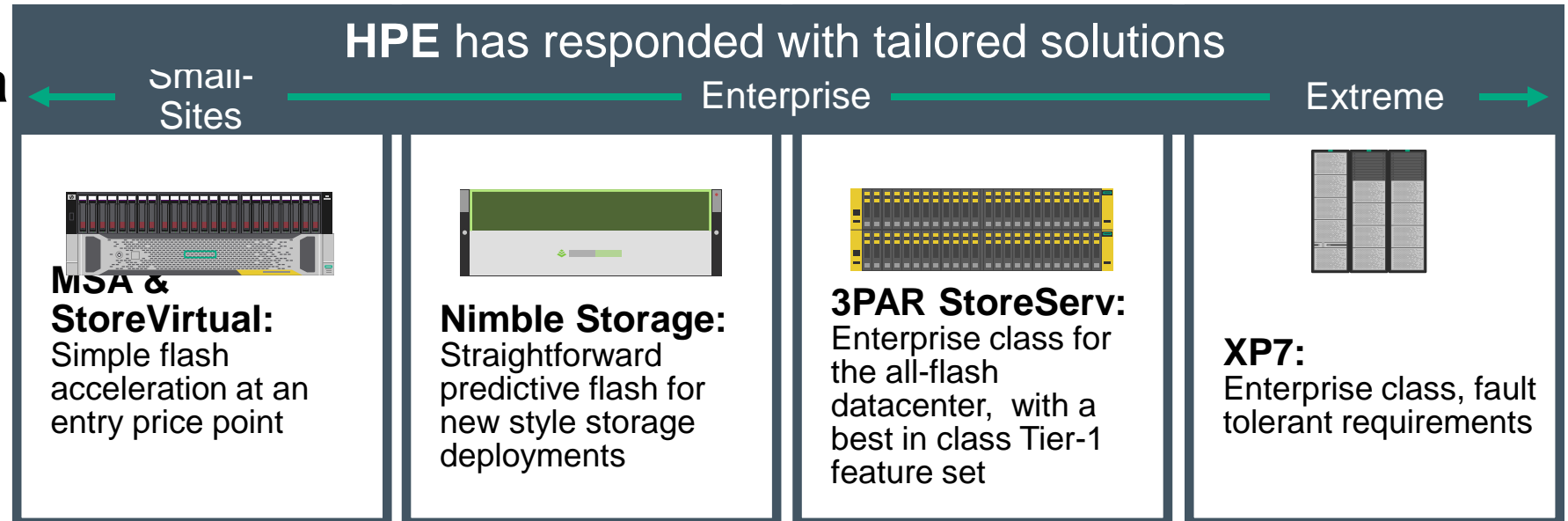
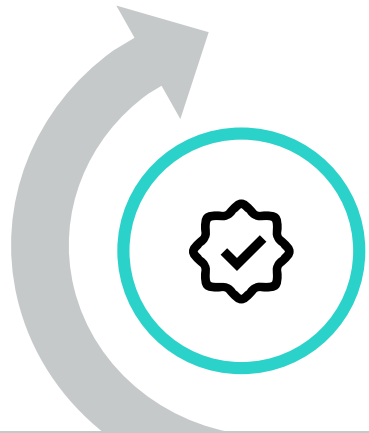


We're entering the third-wave of the flash revolution



In Wave 3 Flash Requirements are Extending Across All Segments

Wave 3: The New Normal



- Brings flash optimized data services down market
- Leverage Infosight analytics across HPE storage portfolio
- Accelerate HPE market share growth and reach of Nimble Storage

New: 5th Generation HPE MSA starting with MSA 2050/2052

Serious flash storage. Don't let the simplicity and low cost fool you.



MSA 2050 Flexible Base Model

200,000 IOPS starting at under \$10K for affordable app acceleration

Flexible base model delivers 2x more performance than previous generation for the same price. Save 40% on hybrid flash model with all-inclusive software and 1.6 TB of SSD capacity included.

Hands-free data services with no experience required

Easy to install, easy to use, easy to maintain—no storage expertise necessary. Automated tiering dynamically responds to workload changes, so you don't have to.

Keep your business running with expanded data protection features

New virtualized snapshot technology makes data protection and instant recovery a snap. Remote replication with FC and iSCSI supports affordable disaster recovery.

Grow flexibly now and into the future

Data-in-place upgrades protect drive investments and eliminate data migrations. Start small and scale as needed with any combination of SSD, Enterprise or Midline SAS drives.



MSA 2052 Hybrid Flash Model

500,000 units deployed WW. Leading entry SAN platform for 8 years running.

The HPE SimpliVity 380: Powerhouse Hyperconvergence

Best-in-class data services, running on the bestselling server platform.

Powerful

Modern data architecture powering the world's most efficient and resilient data centers.

Simple

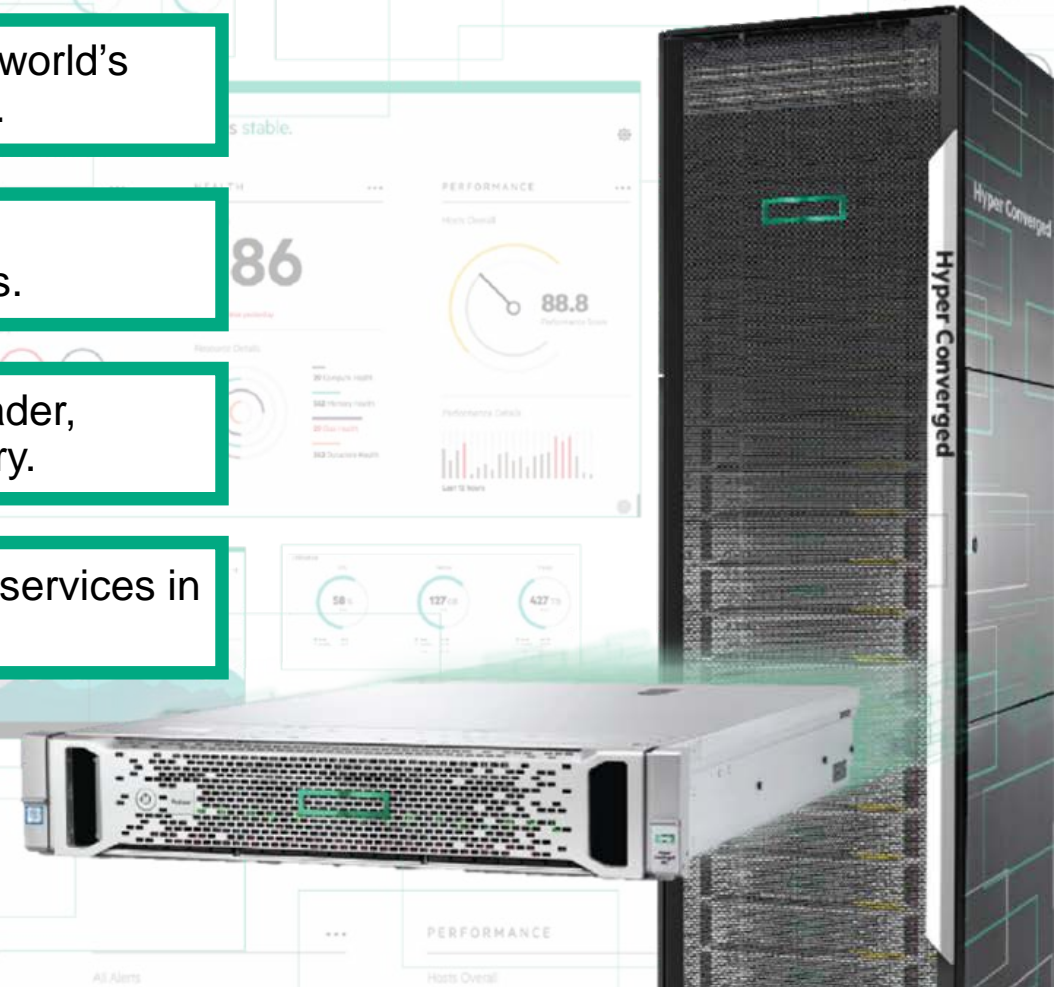
Intuitive per-VM management simplifies operations and empowers IT generalists.

Trusted

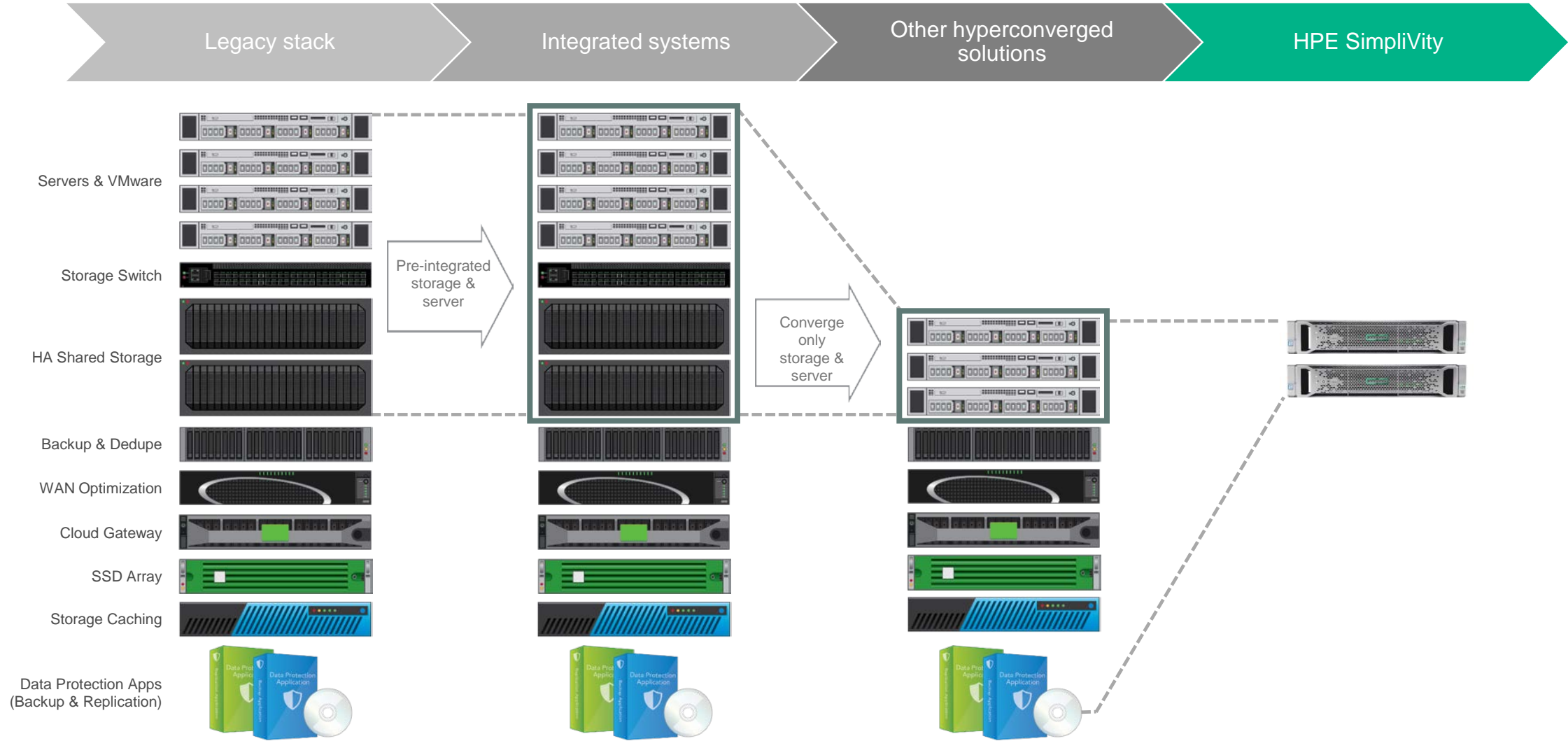
Market leader, customer satisfaction leader, bestselling server platform in the industry.

Complete

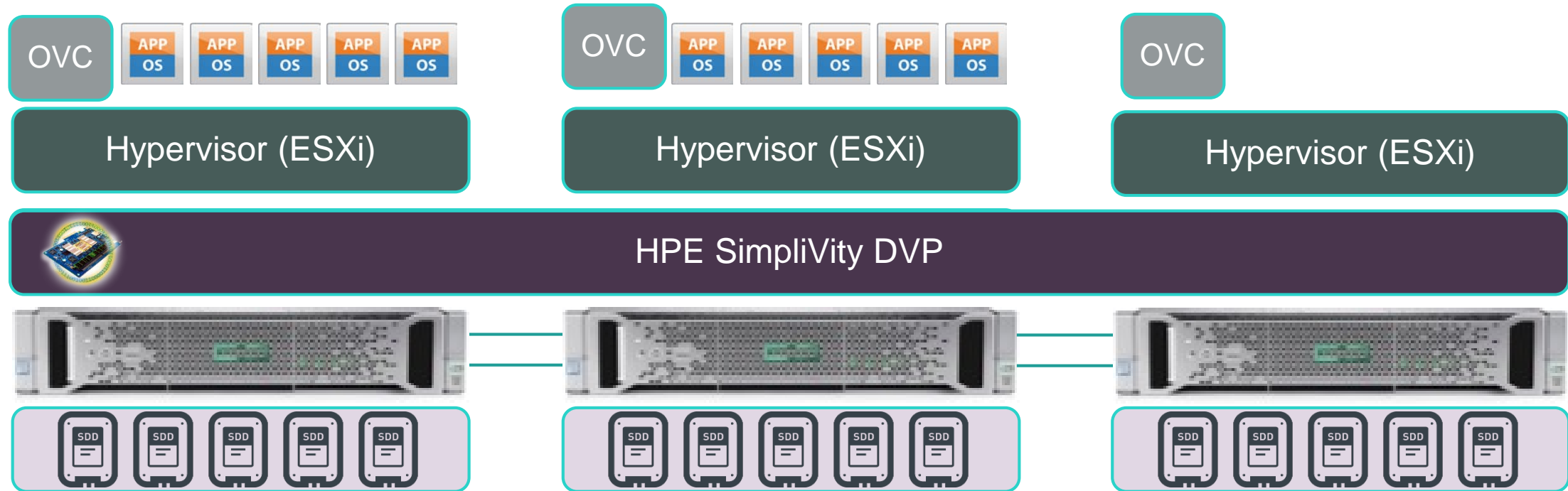
All IT infrastructure and advanced data services in a single building block.

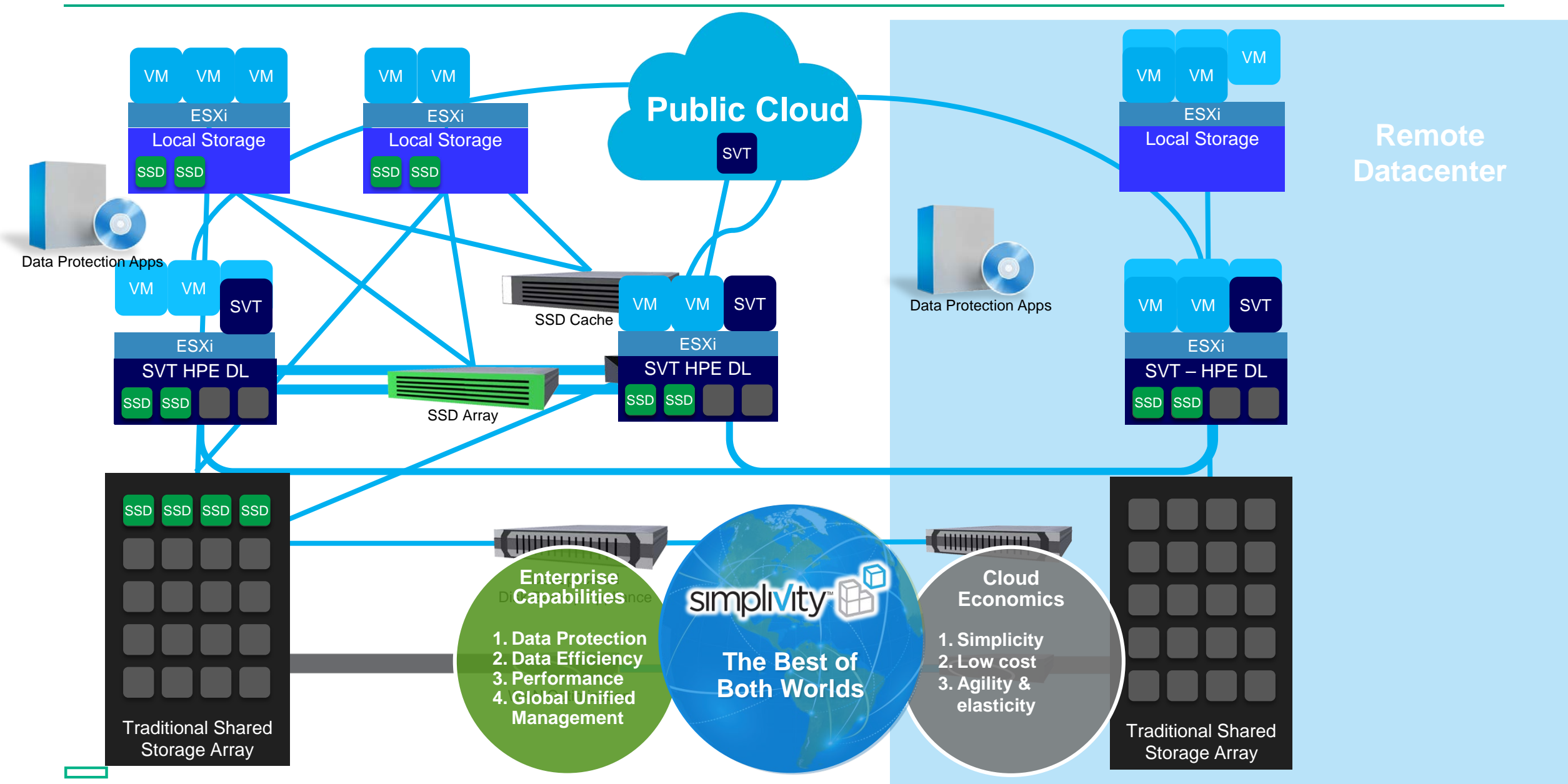


Hyperconvergence Defined



DL380 Basic Building block





Public Cloud

Remote Datacenter

Enterprise Capabilities

1. Data Protection
2. Data Efficiency
3. Performance
4. Global Unified Management

simplivity™

The Best of Both Worlds

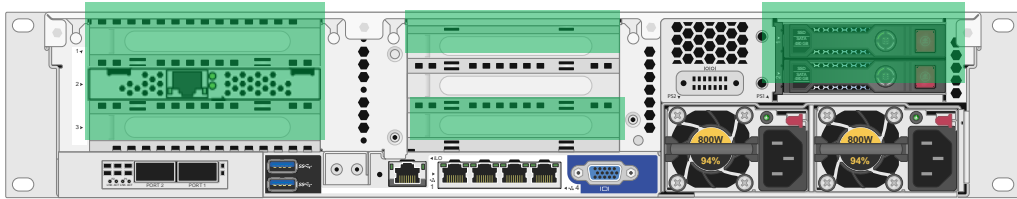
Cloud Economics

1. Simplicity
2. Low cost
3. Agility & elasticity

Traditional Shared Storage Array

Traditional Shared Storage Array

HPE SimpliVity Models



Small	5.6-16.8 TB*
Medium	9.9-29.7 TB*
Large	14.4-43.2 TB*

2 x 480GB SSDs (OVC / ESXi Boot)	2 x 1GbE NICs 2 x 10GbE NICs RJ45 or optical	iLO Port 1 x PCIe Expansion
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**OmniStack
Accelerator**

**Dual Processor
2x8 to 2x22 Cores**

300GB – 1.4TB DRAM

**5, 9 or 12 x SSDs (1.92TB)
RAID 5 (or) 6 (Shared Storage Pool)**

** Based on 1x to 3x primary storage efficiencies.
Actual customer results vary based on reduction capabilities of actual data*

HPE acquires Nimble Storage (17. April 2017)

Nimble Storage was founded in 2007
Headquarter in San Jose, CA



Publicly traded since 2013



10,000+ Customers

The Nimble Storage Portfolio

- entry to mid-range predictive **flash storage** and **hybrid** (adaptive) **storage**
- innovative **InfoSight** Predictive Analytics platform
- **Cloud Ready**

Nimble Storage

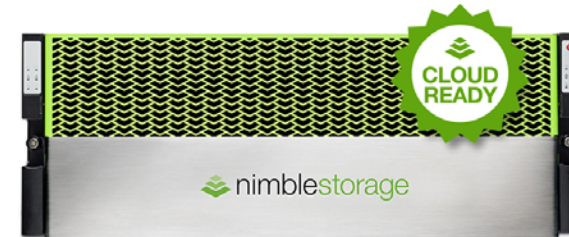


General Availability 5 June 2017

HPE announced the availability of several Nimble entry storage products in selected markets as of 5 June 2017.

We will be able to offer a subset of the Nimble portfolio, including:

- ✓ AF1000 All Flash Arrays
- ✓ CS1000/H Adaptive Flash arrays
- ✓ SF100/SF300 Secondary Flash arrays



Nimble Product Line Comparison



Storage Tier

Primary Storage

Secondary Storage

Usage/
Workloads



High performance primary applications
Other primary applications



Backup, DR, Test/Dev,
other secondary applications

Leading Enterprise Level Data Protection & Efficiencies



SmartSnap: Instant, efficient, granular & application aware



SmartReplicate: Granular and efficient replication



SmartSecure: FIPS 140-2 certified (replication aware) encryption



SmartQoS: Manual & automated QoS on per app/folder/volume/array



SmartCopies: Zero-data move, thin, higher utilization, lower costs



Reduce: Intelligent data reduction, smarter consumption, lower costs



Microsoft



docker

ORACLE®

splunk>

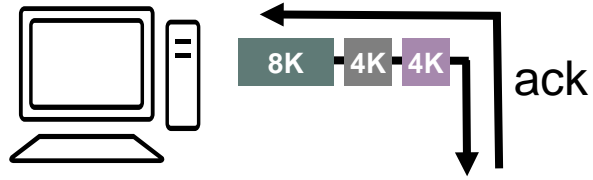
VEEAM

COMMAVAULT®

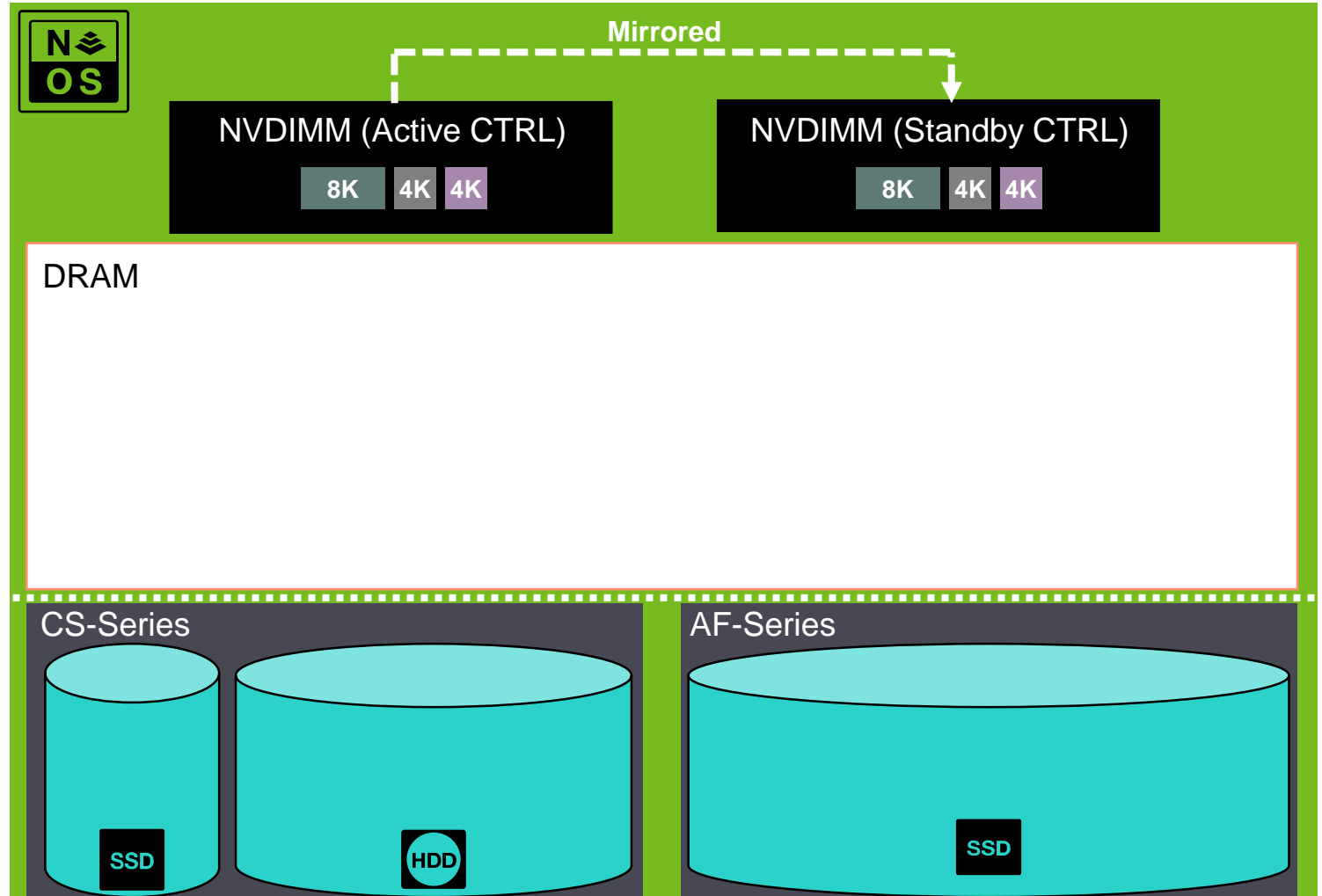


AF-Series Write Operations

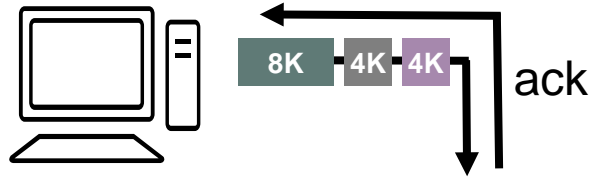
CASL Architecture



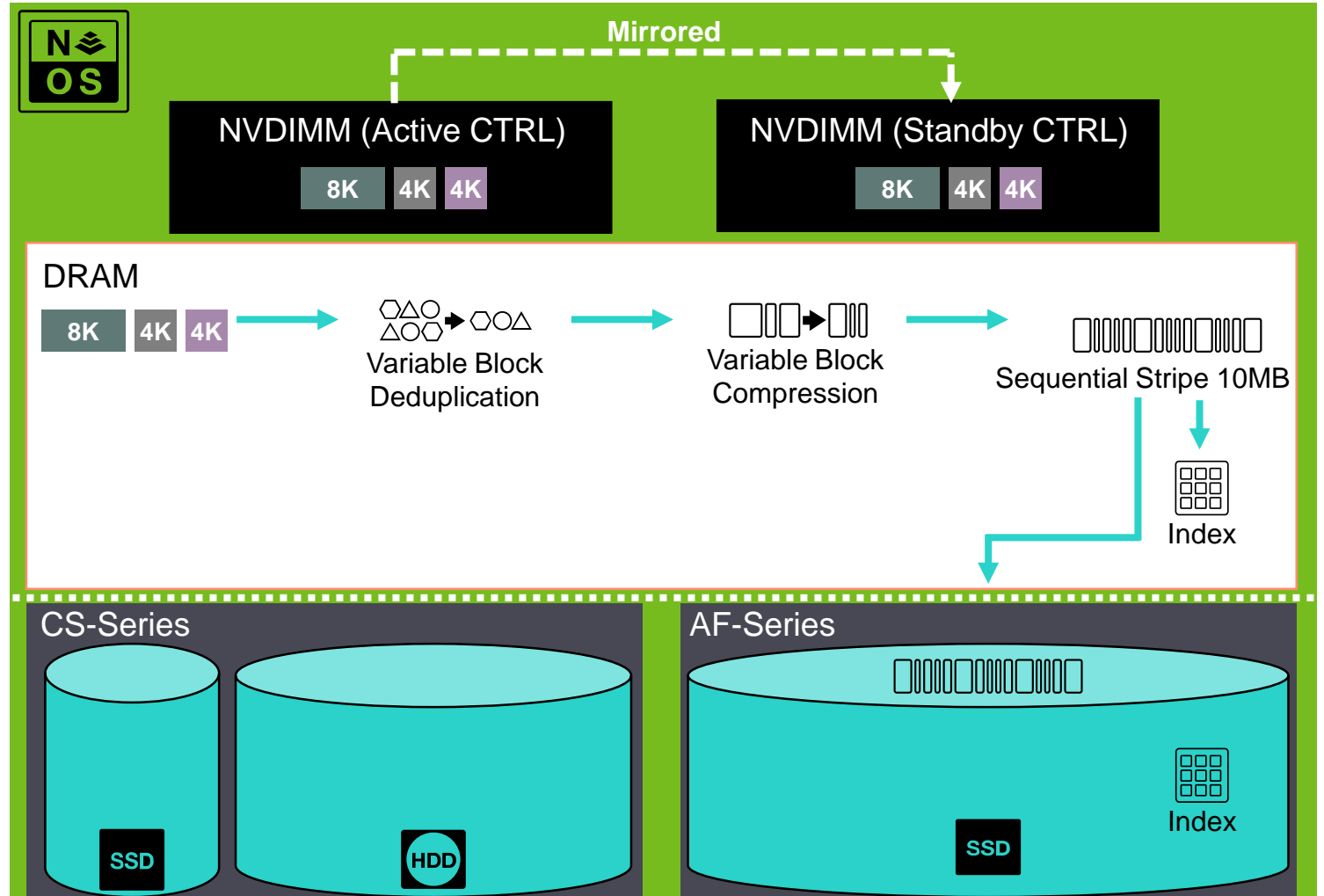
- 1) Writes are sent by a variety of applications in variable block sizes
- 2) CASL places incoming writes into the active controllers NVRAM
- 3) CASL mirrors the active controllers NVRAM to the standby controllers NVRAM
- 4) CASL acknowledges the write



CASL Architecture



- 5) Blocks are copied into DRAM
 - a) What happens next depends of type of array
 - b) All-Flash Array
 1. Variable block deduplication is applied
 2. Variable block compression is applied
 3. Blocks are formed into a 10MB sequential stripe write
 4. Blocks written to SSD and are indexed in DRAM

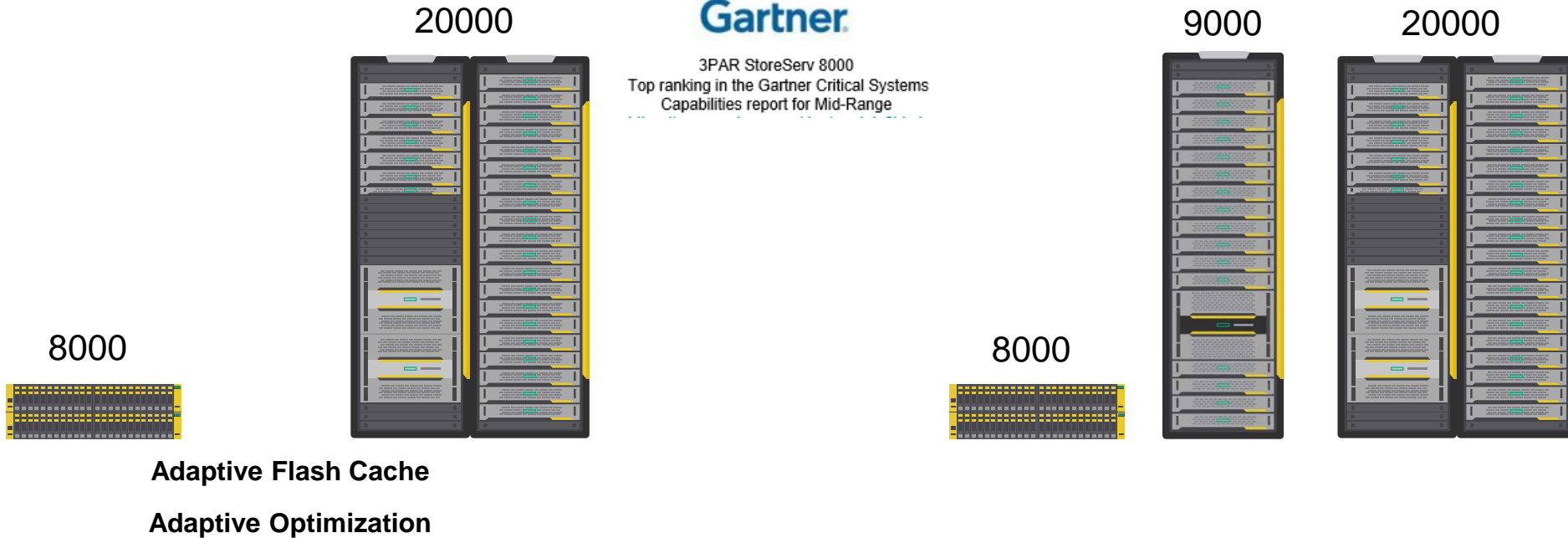


HPE 3PAR StoreServ - Flash with ultimate flexibility

Converged flash



All-flash



Common Tier-1 Data Services



Adaptive Data
Reduction Technologies



Block & File
Personas



Storage
Federation



Storage
Replication

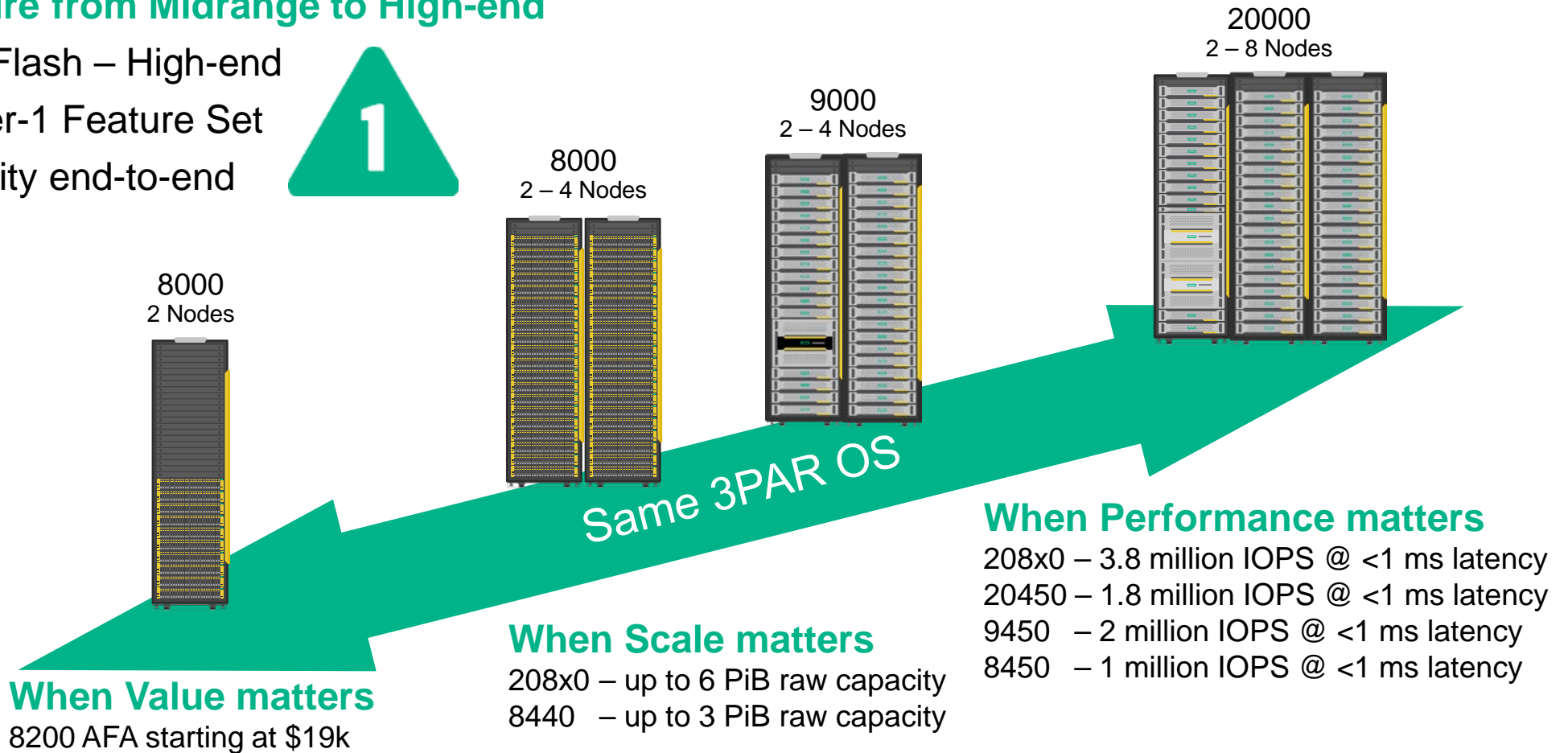
Eliminating distinctions between Midrange and Tier 1

Polymorphic Simplicity – Storage without Boundaries

ONE Architecture from Midrange to High-end

- Midrange – Flash – High-end
- Common Tier-1 Feature Set
- Interoperability end-to-end

Only HPE



3PAR Industry Leadership

Best storage technology in the market – built for virtual environments

3PAR Federation Technologies

3PAR Converged Block, File and Object Access

3PAR Adaptive Data Reduction Technologies (ADR)

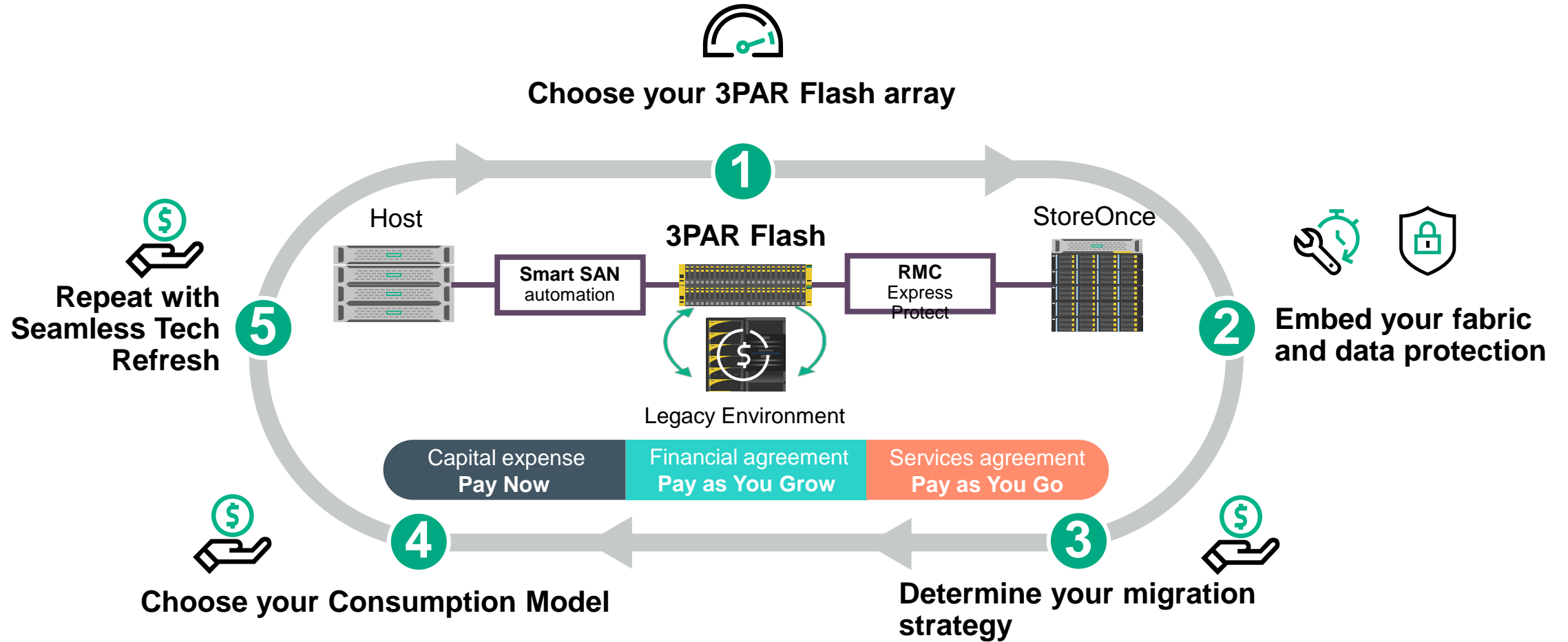
3PAR Flash Optimization

3PAR Persistent Technologies

3PAR Mesh-Active Architecture



HPE 3PAR Flash Now Initiative





Hewlett Packard
Enterprise

Thank You